

**FINAL STATEMENT OF REASONS**

**AMENDMENTS TO APPLIANCE EFFICIENCY REGULATIONS**

**CALIFORNIA CODE OF REGULATIONS,  
TITLE 20, SECTIONS 1601 - 1608**

**CALIFORNIA ENERGY COMMISSION  
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## **I. INTRODUCTION**

The California economy, and indeed the well-being of all of California's citizens, depends on an adequate, reasonably-priced, and environmentally-sound supply of energy. Recent growth in electricity demand has strained the reliability of California's electricity system and has in some circumstances contributed to a substantial rise in electricity prices. Natural gas supplies are also becoming tighter.

Improvements in energy efficiency are the cheapest and most environmentally-friendly methods to help bring demand and supply into balance. The state's Energy Action Plan and the Governor have called for energy efficiency to be first in the "loading order" of new energy supplies.<sup>1</sup>

In response, on December 15, 2004, the California Energy Commission adopted "new rules that could spark a nationwide trend toward wattage-thrifty small appliances."<sup>2</sup> The Commission adopted first-in-the-nation energy efficiency standards for televisions, DVD players, and other consumer entertainment devices, as well as the power supply devices that charge millions of products such as cell phones and laptop computers. The Commission also adopted standards for important commercial appliances such as large refrigerators and air conditioners used in grocery stores and other businesses. The standards are estimated to save business customers \$100 million annually on their bills for electricity and natural gas, and \$152 million annually for residential customers. Over the next fifteen years, the savings from the standards will total 3.75 billion dollars.

## **II. BACKGROUND**

Public Resources Code Section 25402(c) requires the California Energy Commission ("Commission") to adopt feasible, cost-effective standards prescribing minimum efficiency levels for appliances. The regulations in Sections 1601 - 1608 of Title 20 of the California Code of Regulations contain the Commission's efficiency standards, as well as provisions on the testing of appliances to determine their efficiency, reporting of efficiency data to the Commission, and compliance and enforcement procedures. The Commission first

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<sup>1</sup> See, e.g., Governor's Executive Order S-20-04.

<sup>2</sup> [www.newsday.com/news/nationworld/nation/wire/sns-ap-energy-vampires,0,7298074.story?coll=sns-ap-nation-headlines](http://www.newsday.com/news/nationworld/nation/wire/sns-ap-energy-vampires,0,7298074.story?coll=sns-ap-nation-headlines).

adopted appliance standards in 1976 and has periodically revised them; since that time, the standards have saved California citizens over \$10 billion in energy costs.

On September 10, 2004, the Commission published the Express Terms of proposed new and revised regulations on appliance efficiency, as well as a Notice of Proposed Action (“NOPA”), an Initial Statement of Reasons (“ISOR”), and a Statement of Economic and Fiscal Impacts (“Form 399”), as required by the Administrative Procedure Act (“APA”). The NOPA was published in the California Regulatory Notice Register on September 10, 2004, and copies of the NOPA, the ISOR, the Express Terms, and the Form 399 were made available to all interested persons, such as appliance manufacturers, trade associations, electric and natural gas utilities, state and local governments, and efficiency advocates. All persons and entities on the Commission’s electronic listserve for appliances were expressly noticed, and notice was also published on the Commission’s website.

The NOPA designated November 3, 2004, as the date for the hearing to consider adoption of the proposed regulations. At the November 3 hearing, the Commission decided not to adopt the proposed regulations, but rather to issue a revised proposal (“15-Day Language”), for consideration at a hearing on December 15, 2004. The 15-Day Language was published on November 30, 2004, and notice thereof, and of the December 15 adoption hearing, was provided to all participants in the rulemaking proceeding, including all those who had made written or oral comments, and all persons who had requested such notice. The notice of the 15-Day Language proposal and hearing also contained a list of additional documents upon which the Commission was relying. (See part V. below, at page 6.)

The 15-Day Language contained two alternative proposals, each presented in underline and strikeout and each clearly labeled either as “Alternative 1” and “Alternative 2,” for four provisions on lighting:

1605.3(k)(2), Table K-3 (Energy Efficiency Standards for State-Regulated General Service Incandescent Lamps)

1605.3(k)(3) & Table K-4 (Energy Efficiency Standards for State-Regulated Incandescent Reflector Lamps)

1605.3(n)(3), Table N-1 (Energy Efficiency Standards for Metal Halide Luminaires)

1605.3(n)(4) & Table N-2 (Exception to Energy Efficiency Standards  
for Under-Cabinet Luminaires)

The notice of 15-Day Language also clearly explained the existence of the two alternatives. There were no objections to this approach.

At the hearing on December 15, 2004, the Commission adopted the 15-Day Language, including “Alternative 2” for the four lighting provisions, with the exception of the proposed standard in Section 1605.3(a)(5), Table A-6, for “Cabinets without doors specifically designed for display and sale of bottled or canned beverages,” which was not adopted.

The Commission adopted the amendments under the authority of, and to implement, interpret, and make specific, sections 25213, 25216.5(d), 25218(e), and 25402(c) of the Public Resources Code.

### **III. SUMMARY OF THE ADOPTED AMENDMENTS; UPDATED INFORMATIVE DIGEST**

In addition to the changes discussed below, the proposed amendments would make minor clarifications and corrections throughout the regulations.

#### **Section 1601. Scope**

This section lists the appliances to which the regulations apply. The adopted amendments add the following appliances to the scope of the regulations:

- Commercial Refrigerators and Freezers Without Doors
- Walk-In Refrigerators and Freezers
- Automatic Commercial Ice Makers
- Water Dispensers
- Large Packaged Air-Cooled Commercial Air Conditioners
- Evaporative Coolers
- Ceiling Fans
- Whole House Fans
- Residential Exhaust Fans
- Residential Pool Pumps
- Portable Electric Spas
- Commercial Pre-Rinse Spray Valves
- General Service Incandescent Lamps

Traffic Signal Modules for Pedestrian Control  
Metal Halide Luminaires  
Under-Cabinet Luminaires  
Commercial Hot Food Holding Cabinets  
Power Supplies  
Consumer Audio and Video Equipment

#### Section 1602. Definitions and Rules of Construction

Section 1602 contains the definitions of terms used in the regulations. Section 1602(a) contains definitions that are generally applicable to more than one type of appliance, and the rest of Section 1602 contains definitions specifically applicable to one type. The adopted amendments add definitions of new terms used in other sections of the amendments and remove a few obsolete definitions.

#### Section 1603. Testing: All Appliances

This section contains general rules on the testing of appliances. (Section 1604 contains appliance-specific test methods.) The adopted amendments clarify provisions on testing laboratories; move provisions on Executive Approval of laboratories to a general section (1608(i)) on Executive Director determinations on various matters; and delete an obsolete provision, which referred to circumstances existing “[u]ntil January 1, 2003.”

#### Section 1604. Test Methods for Specific Appliances

Section 1604 lists the methods with which the efficiency of each appliance is determined. The adopted amendments specify test methods for some appliances for which there are no current testing requirements, and they specify revised test methods for some appliances that are currently subject to testing requirements.

#### Section 1605: Energy Performance, Energy Design, Water Performance, and Water Design Standards: In General

Section 1605 summarizes the basic requirements for compliance with standards and outlines the three types of appliance efficiency standards contained in the regulations:

Section 1605.1 lists the federal standards that are applicable to federally-regulated appliances.

Section 1605.2 contains state standards for appliances that are federally-regulated. The Section 1605.2 standards become effective only when California obtains a waiver from federal preemption.

Section 1605.3 contains state standards for appliances that are not federally-regulated.

There were no amendments to Section 1605.

#### Section 1605.1. Federal Standards for Federally-Regulated Appliances

This section lists federal appliance efficiency standards, and cross-references state standards found in sections 1605.2 and 1605.3. The adopted amendments add appropriate cross-references to the new standards added by the amendments to section 1605.3. There is only one amendment to the listed federal standards; Table C-2 now reflects changes in federal air conditioner standards required by *Natural Resources Defense Council v. Abraham* (2004) 355 F.3d 179.

#### Section 1605.2. California Standards for Federally-Regulated Appliances

The only amendments in section 1605.2 are corrections of typographical errors, and clarifications.

#### Section 1605.3. California Standards for Non-Federally-Regulated Appliances

It is in this section where the adopted amendments establish new and revised state efficiency standards. The ISOR contains detailed analyses of the cost-effectiveness of each new or revised standard.

#### Section 1606: Filing by Manufacturers; Listing of Appliances in Database

This section requires manufacturers to submit data on the appliances that they sell in California and to certify the appliances' performance. This helps determine whether appliances comply with the applicable standards and provides valuable assistance to building officials, utilities that operate appliance efficiency incentive programs, researchers, and the general public. The adopted amendments add data-submittal requirements for most of the new appliances added to the scope of the regulations, and they make minor corrections and clarifications.

## Section 1607: Marking of Appliances

This section requires manufacturers to mark their appliances with basic data about the appliances' energy performance. The amendments add provisions clarifying the effective date of the requirements; add marking requirements for ceiling fans, commercial pre-rinse spray valves, power supplies, and residential pool pumps; and make minor corrections to existing provisions.

## Section 1608: Compliance, Enforcement, and General Administrative Matters

Section 1608(a) prohibits the sale, or offering for sale, in California of an appliance unless it meets all of the requirements of the regulations, including the requirements of section 1606 for data-submittal and manufacturer certification of compliance. The amendments exclude from the data-submittal and certification requirements those appliances for which data-submittal is currently impractical, and they make minor clarifications.

### **IV. UPDATE OF INFORMATION IN THE ISOR**

There are no updates to the information in the ISOR except for the discussions in the other sections of this FSOR.

### **V. UPDATE OF MATERIAL RELIED UPON BY THE AGENCY**

The ISOR cites, in the "Studies, Reports, and Documents Relied Upon" section, 26 documents in the rulemaking record upon which the Commission relied in proposing the original amendments described in the 45-Day Language. The notice of 15-Day Language (see part II. above, at page 2) listed seven additional documents upon which the Commission was relying and provided instructions on how they could be obtained. All of the documents – both those listed in the ISOR and those listed in the notice of 15-Day Language – were included in the rulemaking record.

### **VI. DETERMINATION WHETHER REGULATIONS IMPOSE A MANDATE UPON LOCAL AGENCIES OR SCHOOL DISTRICTS**

In the December 15, 2004 Adoption Order the Commission determined that the regulations "impose no costs or direct or indirect requirements on state agencies, local agencies, or school districts, including but not limited to costs that are required to be reimbursed under Part 7 (commencing with Section 17500) of

the Government Code, but impose indirect costs that will be more than made up by savings in energy costs.” There were no comments on this matter.

## **VII. DETERMINATION THAT NO ALTERNATIVE WOULD BE MORE EFFECTIVE, OR AS EFFECTIVE AND LESS BURDENSOME TO AFFECTED PERSONS**

In the December 15, 2004 Adoption Order the Commission determined that the regulations “have no alternatives that would be more effective in carrying out the purposes of the Warren-Alquist Act without increasing burdens, or that would be as effective and less burdensome in carrying out the purposes.” There were no comments on this matter.

## **VIII. DOCUMENTS INCORPORATED BY REFERENCE**

The amendments incorporate by reference, in Section 1604, the following documents, which contain test methods whereby the energy performance of appliances is determined:

ANSI C82.6-1985	Standard for Reference Ballasts for Metal Halide Lamps—Methods of Measurement
ANSI C82.6-1985 (R1996)	Ballasts for High Intensity Discharge Lamps – Method of Measurement
ANSI Z83.8-2002	Standard for Gas Unit Heaters and Gas-Fired Duct Furnaces
ANSI/AHAM DW-1-1992	Household Electric Dishwashers
ANSI/ARI 210/240-2003	Standard for Unitary Air-Conditioning and Air-Source Heat Pump Equipment
ANSI/ARI 310/380-2004	Standard for Packaged Terminal Air-Conditioners and Heat Pumps
ANSI/ARI 320-98	Standard for Water-Source Heat Pumps
ANSI/ARI 340/360-2000	Standard for Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment



ANSI/ASHRAE 32.1-2004	Methods of Testing for Rating Vending Machines for Bottled, Canned, and Other Sealed Beverages
ANSI/ASHRAE 133-2001	Method of Testing Direct Evaporative Air Coolers
ANSI/ASHRAE 143-2000	Method of Test for Rating Indirect Evaporative Coolers
ANSI/ASTM F2324-03	Standard Test Method for Pre-Rinse Spray Valves
ANSI/HI 1.6-2000	Centrifugal Pump Tests
ASME/ANSI A112.18.1M-1996	Plumbing Fixture Fittings
ARI 810-2000	Automatic Commercial Ice-Makers
CalTrans	Traffic Signal Modules for Combination Pedestrian Signals, January 17, 2001
Code of Federal Regulations	Title 16, Part 305 (2004)
Code of Federal Regulations	Title 10, Part 430, Appendix B to Subpart F (2004)
Code of Federal Regulations	Title 10, Section 430.23 (2004)
Code of Federal Regulations	Title 10, Sections 431.23-431.28 (2004)
EPA	Energy Star Program Requirements for Bottled Water Coolers (2004)
EPA	Energy Star Solid State Test Method for Ceiling Fans (2004)
EPA	Test Method for Calculating the Energy Efficiency of Single-Voltage External AC-DC and AC-AC Power Supplies (August 11, 2004)
HVI-916 (1995)	Air Flow Test Standard – Laboratory Methods of Testing Air Flow Capacity of Residential Ventilation Equipment for rating

IEC 62087 (2002)(E)	Methods of Measurement for the Power Consumption of Audio, Video, and Related Equipment.
IEEE 114-2001	Standard Test Procedures for Single-Phase Induction Motors
NEMA MG-1-1993	Motors and Generators
NFPA 70 2002	National Electrical Code
UL 1029-2001	Standard for High-Intensity-Discharge Lamp Ballasts

All of the documents are clearly identified by title and date in Section 1604 and in the note following the section. Mail and electronic addresses where the documents may be obtained are also listed.

One copy of each document that is incorporated by reference is being filed with OAL (in a separate folder, marked "Documents Incorporated by Reference"). Six copies are not required because the documents are reasonably available from a commonly known and identified source. (Cal. Code Regs., tit. 1, § 20, subd. (d).) The documents are many pages long; therefore, publication in full in the California Code of Regulations would be cumbersome and impractical. (*Id.* § 20, subd. (c)(1).)

## **IX. SUMMARY OF COMMENTS, AND RESPONSES THERETO**

### **A. Comments Supporting the Regulations**

The following is a sample of the comments supporting the proposed regulations:

Appliance Standards Awareness Project (Andrew DeLaski, Executive Director), Comments on CEC-Proposed Amendments to Appliance Efficiency Regulations (45-Day Language) (October 22, 2004):

*"I am writing to applaud the California Energy Commission for advancing the 2004 revisions to the Title 20 appliance efficiency standards. These*

*new standards offer tremendous energy savings and economic benefits for the state of California. Moreover, it is very likely that the direct benefits that the new standards create for California will be multiplied several times over in the years ahead as these common-sense standards are adopted by other states, and in some cases, the federal government.”*

Natural Resources Defense Council (Noah Horowitz, Senior Scientist), oral comments at the December 15, 2004 Business Meeting:

*“I am here today to express NRDC’s unconditional support for passage of the proposed standards without delay. The proposed standards reflect a comprehensive list of products, and the standard levels can easily be achieved through the use of cost effective technologies that already exist on the market today.”*

California Public Interest Research Group (Emily Clayton), oral comments at the October 13, 2004 Efficiency Committee Hearing:

*“We’re a statewide consumer group. And I just wanted to express my organization’s firm support for these regulations on behalf of the consumers of California, who stand to save substantial amounts of money on the energy that’s not going to be wasted.”*

## **B. Comments Opposing, or Recommending Changes in, the Regulations**

Comments opposing, or recommending changes in, the proposed regulations are organized according to which section of the regulations they pertain.

### **Section 1601 – Scope**

#### **Section 1601(a) – Refrigeration Equipment**

*Comment:* ARI and Ice-O-Matic asked that the commercial cube ice machines that are within the scope of the standards be limited to those machines with a capacity of 50 to 2500 pounds per 24 hours.

*Response:* The suggested change was made.

## Section 1601(u) – Power Supplies

*Comment:* AHAM, Bissell, Black & Decker, Euro-Pro, Electrolux, and PTI asked that the scope of “power supplies” specifically exclude those power supplies used with battery chargers.

*Response:* No change. The commenters’ recommended exclusion of power supplies used with battery chargers would be consistent with the *temporary* Energy Star specification for this appliance. However, power supplies are internationally-manufactured and internationally-marketed products, and efficiency programs in the European Union, China, and Australia include power supplies used with battery chargers. In order to avoid confusion and to make all programs as efficient as possible, consistent coverage is preferable. As a result, the Commission chose not to accept the recommended exclusion and instead to make the California program consistent with programs around the world.

## **Section 1602 – Definitions**

### Section 1602(b): Definitions for Refrigerators, Freezers, and Refrigerator-Freezers

*Comment:* Carrier recommended that the definition of worktop table be broadened to include freezers.

*Response:* The requested change was made.

*Comment:* Carrier asked that a definition for refrigerator-freezers that use two independent refrigeration systems be added to the regulations.

*Response:* The requested change was made.

*Comment:* ARI and Enodis asked that a definition for “commercial ice maker” be added to the regulations.

*Response:* No change, because such a definition already existed in the regulations.

*Comment:* ARI asked that a definition of “maximum water use” related to commercial ice makers be added to the regulations.

*Response:* The requested change was made by explaining what water use means in Table A-7 of Section 1605.3(a)(7).

*Comment:* NAMA suggested that the Commission change the definition of “Refrigerated multi-package vending machine” to make it clearer and more accurate.

*Response:* The requested change was made.

Section 1602(d): Definitions for Spot Air Conditioners, Evaporative Coolers, Ceiling Fans, Whole House Fans, and Residential Exhaust Fans

*Comment:* Coolerado Corp. and Davis Energy Group requested a different acronym other than EER and a definition for evaporative cooling efficiency descriptor.

*Response:* The requested changes were made.

Section 1602(h): Definitions for Plumbing Fittings

*Comment:* T&S Brass and PMI asked that the definition of commercial pre-rinse spray valve be modified to add the phrase “are installed and used in conjunction with commercial dishwashing and ware washing equipment.”

*Response:* No change. Under California law, the appliance regulations apply to the sale or offering for sale of appliances in the state. (Public Resources Code section 25402(c)(1).) Therefore, for any particular type of appliance, the regulations must apply uniformly to all units that are sold; they are legally unable to distinguish between appliances that are installed for one purpose and those that are installed for a different purpose.

Section 1602(k): Definitions for Lamps

*Comment:* NEMA opposed the inclusion of brand names in the definition of “state-regulated general service incandescent lamp” in Section 1602(k) and in the standard for such lamps in Section 1605.3(k)(2), Table K-3.

*Response:* No change. Both Section 1602(k) and Section 1605.3(k)(2) distinguish among various lamp types, including the “full spectrum” or “enhanced spectrum” type. Both sections use the phrase “such as . . . Chromalux, Reveal, and Enrich,” which are brand names for full or enhanced spectrum lamps. Because the brand names are used simply as examples, rather than as limiting conditions, neither section discriminates for or against those particular brand names. Nor is there any other legal barrier to their use. The brand names are used simply as a reader-friendly method of clarification on the scope of the regulations.

*Comment:* NEMA suggested that the definition of “Full Spectrum” or “Enhanced Spectrum” lamps be changed.

*Response:* The requested change was made.

## Section 1602(u): Definitions for Power Supplies and Consumer Audio and Video Equipment

*Comment:* Bissell and Hoover asked that the definition of “External Power Supply” be revised to exclude battery chargers.

*Response:* See the response under Section 1601(u), at page 11 above.

*Comment:* Bissell, Euro-Pro, Norelco, Royal Appliance, and Wahl stated that the Commission should adopt the same definition that the U.S. EPA Energy Star program proposes to use in its final version of the Energy Star program for Single Voltage External Power Supplies.

*Response:* The requested change was made.

*Comment:* AHAM and Electrolux criticized the Commission’s definition for “Single Voltage AC to DC Power Supply.”

*Response:* No change. However, the definition was changed in response to other comments – see Bissell et al., immediately above. AHAM and Electrolux criticized the changed definition. The Commission made no change because power supplies are internationally-manufactured and internationally-marketed products. The adopted definition is the same as that used in the efficiency programs for this appliance implemented by the European Union, China, and Australia. In order to avoid confusion and to make all programs as efficient as possible, consistent definitions are preferable. As a result, the Commission chose not to change the definition and thus kept the California program consistent with programs around the world.

## **Section 1603 – Testing: All Appliances**

There were no comments on this section.

## **Section 1604 – Test Methods for Specific Appliances**

### Section 1604(a), Test Methods for Refrigerators, Refrigerator-Freezers, and Freezers

*Comment:* ARI requested that the Commission adopt publication ARI 1200 as the test method for commercial refrigerators and freezers.

*Response:* No change. The ARI standard is defective in that it is internally inconsistent in defining rating temperatures.

*Comment:* ARI requested that the Commission reference the 2003 version of ARI Standard 810 rather than the 2000 version of ARI Standard 810 for commercial ice makers.

*Response:* The requested change was made.

*Comment:* Enodis requested that for commercial ice makers, the capacity reported by manufacturers to the Commissions should be required to be within 5 percent of the tested capacity.

*Response:* The requested change was made.

*Comment:* ARI requested that the requirement, regarding commercial ice makers, that the harvest rate be reported within 5 percent of the tested value, be removed from the test procedure.

*Response:* This requirement was added in response to another commenter who pointed out that without such a limitation, manufacturers could over-report the harvest rate of their icemakers. (See Enodis comment, immediately above.) The efficiency standards for icemakers are maximum energy use and maximum water use per unit of ice (see Section 1605.3(a)(7)), so without the requirement for accurate reporting of harvest rate, manufacturers could “comply” with the standards merely by reporting a high harvest rate.

*Comment:* Dixie-Narco asked that the Commission use different ambient temperatures for testing refrigerated beverage vending machines designed for “indoor use only.”

*Response:* The requested change was made.

*Comment:* Dixie-Narco claimed that referring to the new categories of beverage vending machines, such as “Multi-Package Vendor,” rather than “for indoor use only,” will potentially lead to confusion.

*Response:* No change. The Commission added the category of “refrigerated multi-package beverage vending machine” on advice of other industry commenters to achieve clarity and avoid confusion.

#### Section 1604(d), Test Methods for Spot Air Conditioners, Evaporative Coolers, Ceiling Fans, Whole House Fans, and Residential Exhaust Fans

*Comment:* Coolerado Corporation stated that different test methods are required for direct and indirect evaporative coolers.

*Response:* The requested change was made; the regulations specify ASHRAE 133 for direct evaporative coolers and ASHRAE 143 for indirect evaporative coolers.

*Comment:* Hunter Fan stated that “low-profile” or “hugger” ceiling fans cannot be tested with the test method in the proposed regulations.

*Response:* The Commission excluded low-profile ceiling fans from the testing and reporting requirements in the adopted regulations.

#### Section 1604(h), Test Methods for Plumbing Fittings

*Comment:* PMI stated that the cleanability test contained in the proposed test method for pre-rinse spray valves, ASTM 2324, would not produce consistent reliable information for consumers.

*Response:* The Commission recognizes that some degree of variability exists in conducting the cleanability test, and thus extended the maximum allowed time for this test from 26 seconds to 30 seconds per test plate.

#### Section 1604(u), Test Methods for Power Supplies and Consumer Audio and Video Equipment

*Comment:* AHAM, Bissell, Electrolux, Euro-Pro, Hoover, Norelco, PTI, Royal Appliance, and Wahl asked that the Commission use the EPA’s “most recent” test procedure.

*Response:* The requested change was made. The adopted regulations reference the August 11, 2004 edition of the EPA test procedure, which was the latest official version of the power supply test procedure when the 15-Day Language was published, and when the regulations were adopted by the Commission. The EPA test procedure is compatible with the test procedures used by the European Union, China, and Australia.

*Comment:* Applica Consumer Products stated that the Commission-referenced test procedure for external power supplies does not appropriately measure the efficiency of constant-current battery chargers.

*Response:* No change; the comment is irrelevant. The test method is not designed to measure the efficiency of battery chargers, which are not covered by the regulations. Rather, the test method is designed to, and does, measure the efficiency of power supplies, which are covered by the regulations.

*Comment:* On Semiconductor stated that because of the uniqueness of battery charger requirements, the test procedure for power supplies referenced by the Commission in the 45-day language is not adequate.

*Response:* The adopted standards measures the standby loss of the transformer that is located between the AC main power source and the end-use appliance. In some



cases the power cord from the low-voltage side of the transformer ends in a plug which may be removed, and in other cases (e.g., battery chargers), the cord is permanently attached to the battery. There is no justification for treating these two power supply designs differently when considering their efficiency.

## **Section 1605 – Energy Performance, Energy Design, Water Performance, and Water Design Standards**

### **Section 1605.1 – Federal Standards for Federally-Regulated Appliances**

### **Section 1605.2 – California Standards for Federally-Regulated Appliances**

There were no comments on Sections 1605, 1605.1, or 1605.2.

## **Section 1605.3 – State Standards for Non-Federally-Regulated Appliances**

### **Section 1605.3(a), Standards for Refrigerators, Refrigerator-Freezers, and Freezers**

*Comment:* ARI and Carrier requested that the Commission adopt separate standards for transparent door ice cream cabinets (the 45-Day Language contained standards only for solid door ice cream cabinets).

*Response:* The requested change was made.

*Comment:* ARI requested that a less stringent standard be applied to doorless beverage machines, and Carrier requested that the proposed standard be delayed until 2010.

*Response:* The Commission did not adopt standards for this type of appliance.

*Comment:* ARI and Carrier requested that less stringent standards be applied to “rapid cool-down” types of refrigeration equipment.

*Response:* No change. The “rapid cool-down” products are inherently less efficient than other types because they need oversized compressors. It would be counter-productive to adopt a standard that encourages, rather than discourages, unnecessary energy use.

*Comment:* ARI and Carrier requested that lighting design standards be eliminated for freezers that have a minimum efficiency standard.

*Response:* The requested change was made.

*Comment:* ARI stated that the proposed standard for commercial refrigerator-freezers contains a formula that, for the smallest volume refrigerator-freezers, will result in a negative number for energy efficiency, which is not possible.

*Response:* The Commission solved the problem by putting a low-volume limit on refrigerator-freezers for which the formula is applicable, and by establishing a fixed maximum energy consumption value for the smallest volume units.

*Comment:* ARI and Carrier asked that the Commission not regulate freezers that are designed for the specific purpose of hardening ice cream below -20 degrees F and similar functions.

*Response:* According to the commenters, such freezers are not used for the storage of food, but rather only to reduce temperatures to very low levels. Because there is no storage, such freezers are outside the scope of the regulations: Section 1602(b) defines “freezer” as “a cabinet that is designed as a unit for the freezing *and storage* of food, beverages, or ice” (emphasis added).

*Comment:* Carrier asked that separate efficiency standards be set for refrigerator-freezers that use two independent refrigeration systems, imposing a standard that is equal to the sum of both applicable refrigerator and freezer standards.

*Response:* No change. It is not necessary to establish a separate standard for this category of refrigerator-freezer, as such units currently on the market are able to meet the proposed standards. However, the wording of the regulations was clarified to make it more clear how such units should be tested.

*Comment:* NAMA stated that there should be different standards for vending machines with opaque versus transparent doors, since industry currently manufactures glass-front beverage vending machines and the market for them is expected to increase.

*Response:* The Commission added a separate category for “multi-package” beverage vending machines, which includes the category of glass-front machines, but there was no technical (e.g., energy-performance) rationale given for distinguishing between opaque and transparent-front models.

*Comment:* NAMA asked that the Commission include in its regulations a category for multi-package beverage vending machines.

*Response:* The requested change was made.

*Comment:* NAMA stated that for multi-package vending machines, the energy efficiency standard should be based on internal volume rather than the rated capacity in 12-ounce cans, since these vending machines are used to dispense a variety of different-sized items.

*Response:* No change. The test method for multi-package vending machines measures their capacity in terms of the number of items stored in the machine

rather than the amount of space the products occupy. Therefore, it would be inconsistent with the test method to have the efficiency standard based on volume.

*Comment:* NAMA asked that the Commission adopt the same energy efficiency formula for beverage vending machines as the U.S. EPA Energy Star program uses.

*Response:* The requested change was made.

*Comment:* True asked that the Commission reconsider setting standards for refrigerators without doors, specifically designed for the display and sale of bottled or canned beverages.

*Response:* The Commission removed doorless beverage merchandisers from the scope of the standards.

*Comment:* ARI and Lennox stated that the proposed standards requiring ECM motors for walk-in refrigerators are not practical because such motors are not available in all sizes, power requirements, and voltages.

*Response:* No change, because other comments indicated that the required motors are available. However, in the order adopting the standards, the Commission stated that it would re-examine this issue during the next nine months.

*Comment:* Kason Industries asked that the design standard of automatic door closers required for walk-in refrigeration be limited to smaller walk-ins only.

*Response:* No change was made, because the commenter did not demonstrate that the proposed standard was infeasible or not cost-effective. However, in the order adopting the standards, the Commission stated that it would re-examine this issue during the next nine months.

*Comment:* Apex Group stated that in regards to the ECM evaporator fan motor requirements for walk-in refrigeration, new information indicates that ECM motors have been shown to consume more total energy than equivalent PSC motors with lower power factors, more than offsetting their increased efficiency.

*Response:* No change. The comment did not demonstrate that the ECM standard is infeasible or not cost-effective; it indicated only that a different standard might be even more desirable. In the order adopting the standards, the Commission stated that it would examine this issue during the next nine months.

*Comment:* Coca-Cola, Dixie-Narco, and NAMA requested that different standards be applied to vending machines that are categorized as “multi-package”-type vending machines.

*Response:* The Commission changed the testing requirement for “multi-package”-type vending machines so that they are tested at 75 degrees F. ambient temperature rather than the 90 degrees F. ambient temperature that standard beverage vending machines are tested at. The practical effect is the same as the different standard that the commenters requested.

*Comment:* ARI and Enodis asked that the Commission exempt or impose a different standard for 22-inch-wide air-cooled ice makers.

*Response:* The Commission modified the provisions in Section 1605.3(a)(7) by delaying the effective date of the standards. This delay satisfied the concerns of the commenters.

*Comment:* ARI requested that the Commission set a standard for remote condensing unit ice makers that will not eliminate units with capacities over 850 pounds from the market.

*Response:* The adopted standard applies only to machines operating as an “integrated unit” (see definition in Section 1602(b), which excludes ice makers with remote condensing units).

*Comment:* ARI requested that the Commission set a standard for water-cooled ice makers that will not eliminate units with capacities over 1300 pounds from the market.

*Response:* The Commission modified the scope in Section 1601(a) to exclude the very large units discussed by the commenter (as well as very small units).

*Comment:* ARI asked the Commission to postpone the effective date for commercial ice maker standards until January 1, 2010.

*Response:* There was no compelling reason for any delay at all, as complying models were already available in 2004. However, in order to provide some assistance to manufacturers who might otherwise have difficulty complying, the Commission changed the effective date of the commercial ice maker standards from January 1, 2007 to January 1, 2008.

*Comment:* Enodis asked the Commission to give “special consideration” for “quiet” ice maker units.

*Response:* The “quiet” type of “automatic commercial ice makers” are those utilizing remote condensers and are thus, under the definition in Section 1602(b), excluded from the regulations.

*Comment:* Enodis asked the Commission to give “special consideration” for water-cooled ice maker units.

*Response:* The standards in Section 1605.3(a)(7) were modified to provide different standard levels for water-cooled and air-cooled units.

*Comment:* Scotsman asked the Commission to exclude “flakers” from the ice maker standards.

*Response:* No change. Because flake-type ice makers are, according to the manufacturer, inherently more efficient than cube-type ice makers, they can meet the standard more easily than can cube-type machines.

#### Section 1605.3(c), Standards for Central Air Conditioners

*Comment:* ARI asked that the Commission eliminate the two-tiered standard for large air conditioners and replace it with a one-tier 10 EER standard. ARI claimed that the economic analysis used to justify the standards was flawed, the effective date of October 1, 2006 does not allow sufficient time for manufacturers to redesign their products, and a 0.2 EER deduction should be allocated for units using heating other than electric resistance.

*Response:* No change. ARI gave no reason why the economic analysis was flawed, October 1, 2006 gives manufacturers enough time (complying models are already on the market), and providing special treatment for the inherently inefficient electric resistance products would discourage, rather than encourage, energy efficiency.

#### Section 1605.3(d), Standards for Spot Air Conditioners, Evaporative Coolers, Ceiling Fans, Whole House Fans, and Residential Exhaust Fans

*Comment:* Hunter Fan asked the Commission to set separate efficiency standards for ceiling fans without lights and ceiling fans with lights.

*Response:* The comment misunderstood the proposed regulations. Only testing requirements, but not efficiency standards, were proposed as part of the rulemaking.

#### Section 1605.3(k), Standards for Lamps

*Comment:* NEMA opposed the inclusion of brand names in the definition of “state-regulated general service incandescent lamp” in Section 1602(k) and in the standard for such lamps in Section 1605.3(k)(2), Table K-3.

*Response:* See response under Section 1602(k), at page 12 above.

*Comment:* NEMA opposed the proposed standards for several types of lamps:  
vibration-service lamps  
general service incandescent lamps (2007 standards)  
incandescent reflector lamps

*Response:* The Commission decided not to adopt standards for these types of lamps.

*Comment:* NEMA asserted that the standards for the following types of lamps (and other lighting equipment) are preempted by federal law:

- general service fluorescent lamps
- incandescent reflector lamps
- general service incandescent lamps
- luminaires, including metal halide luminaires and under-cabinet fluorescent luminaires

*Response:* No change. The Commission's legal counsel determined that NEMA's arguments have no merit. The federal appliance statute divides the appliance world into two parts: appliances that are "covered products" and appliances that are not. The words of the statute expressly preempt most state efficiency standards for "covered products." (42 U.S.C. § 6297(b), (c), (e), (f).) The obvious corollary is that state efficiency standards for *non-covered-products* are not preempted; this principle has never been questioned, despite fifteen years of various preemption disagreements between the Commission and various segments of the appliance industry. NEMA, however, argued that by expressly preempting state standards for covered products, and by expressly excluding non-covered products from the scope of federal regulation, Congress intended to preempt state efficiency standards for *all* appliances. That argument makes no sense. If Congress had intended to preempt state standards for non-covered products as well as for covered products, it would have said so; but what it actually did was preempt state standards only for covered products, leaving the states free to have standards for non-covered products.

All of the proposed standards for lighting products are for classes of appliances that are outside the scope of federal standards. Therefore, there is no preemption.

Moreover, even if NEMA's arguments about preemption were correct, there would be no effect on the legality of the regulations. Federal preemption does not forbid the states from adopting standards. Rather, the federal statute says that in order to enforce a preempted state standard, the state must obtain a waiver of preemption from the U.S. Department of Energy. (42 U.S.C. § 6297(c)(2).) Thus

nothing in federal law affects the Commission's authority to adopt the proposed standards; if NEMA were correct, the only consequence would be that the Commission would have to submit a waiver petition to DOE. (Indeed, the Commission is preparing waiver petitions for two previously-adopted standards that the Commission acknowledges are preempted, for central air conditioners and for residential clothes washers.)

#### Section 1605.3(n), Standards for Luminaires

*Comment:* With regard to the standards for metal halide luminaires, NEMA asserted that the required pulse-start technology is not currently available in all wattage and for both horizontal and vertical burning positions.

*Response:* The adopted standards cover only vertical-position metal halide luminaires, for which all parties agreed the technology is available.

*Comment:* NEMA stated that requiring electronic ballasts on all under-cabinet fluorescent lamp luminaires raises the possibility of causing interference with certain types of sensitive instrumentation equipment.

*Response:* The Commission incorporated an exclusion in the under-cabinet luminaire standards for under-cabinet luminaires that are specifically designed and labeled for applications where interference from electronic ballasts would interfere with critical, sensitive equipment.

*Comment:* NEMA objected to the labeling requirement that is necessary to qualify for the exception for under-cabinet luminaires that are specifically designed for applications where critical, sensitive equipment would be adversely affected by electronic ballast interference.

*Response:* No change. The Commission adopted the exception in response to NEMA's earlier complaint about the use of electronic ballasts around sensitive equipment (see NEMA comment, immediately above). NEMA's second comment attempts to have it both ways. The label is necessary to ensure that the undesirable interference does not occur and that only those appliances that are entitled to the exception are able to obtain it.

*Comment:* NEMA stated that, because the Commission's Title 24 Building Energy Efficiency Standards include standards for indoor lighting, there is no need to have efficiency standards for this equipment in the Title 20 Appliance Efficiency Regulations.

*Response:* No change. The Title 24 Building Standards cover only those products being installed in new construction. It is also important to have standards that

regulate the efficiency of all products sold in the state, whether or not they are installed in new construction. In addition, the Title 20 Appliance Regulations cover more types of equipment than do the building standards.

*Comment:* Robertson Worldwide asserted that the proposed standards for under-cabinet fluorescent fixtures are technically incorrect and are based on faulty support analysis.

*Response:* Robertson gave no specific reasons for their assertion. The Commission believes that the analysis on which the standards for under-cabinet fluorescent fixtures were based is reliable, and the consultants who authored the analysis, who are recognized as leaders in the field of lighting efficiency, stated that Robertson was incorrect.

*Comment:* Robertson Worldwide stated that the timing of the proposed standard for under-cabinet luminaire standards, Jan 1, 2006, is unrealistic and would present a significant burden to the industries involved.

*Response:* No change. Complying models were already on the market in 2004.

*Comment:* NEMA asserted that the standards for the following types of luminaires (and other types of lighting equipment) are preempted by federal law:

- luminaires, including metal halide luminaires and under-cabinet fluorescent luminaires
- general service fluorescent lamps
- incandescent reflector lamps
- general service incandescent lamps

*Response:* See response to NEMA comment under Section 1605.3(k), at pages 21 - 22 above.

#### 1605.3(u), Standards for Power Supplies and Consumer Audio and Video Equipment

*Comment:* AHAM, Bissell Homecare, Black & Decker, Euro-Pro, and Electrolux asked that the standards for power supplies specifically exclude battery chargers.

*Response:* The adopted standards measures the standby loss of the transformer that is located between the AC main power source and the end-use appliance. In some cases the power cord from the low-voltage side of the transformer ends in a plug which may be removed, and in other cases, the cord is permanently attached to the battery. There is no justification for treating these two power supply designs differently when considering their efficiency.



*Comment:* AHAM stated that the Commission's standards for external power supplies are designed for the energy efficiency of constant-voltage external power supplies and not household appliance battery chargers, and that the regulation of "Minimum Efficiency in Active Mode" is improper and biased against appliance battery chargers.

*Response:* The adopted standards measures the standby loss of the transformer that is located between the ac mains power source and the end-use appliance. In some cases the power cord from the low-voltage side of the transformer ends in a plug which may be removed, and in other cases, the cord is permanently attached to the battery. There is no justification for treating these two power supply designs differently when considering their efficiency.

*Comment:* Apple Computer asked that the first-tier standard for power supplies be delayed to allow a longer transition time for manufacturers to comply with the standards.

*Response:* The Commission delayed the first-tier standard for power supplies from the originally-proposed date of January 1, 2006, to July 1, 2006.

*Comment:* Apple Computer asked that an exemption from the power supply standards be made for power supplies that will be used as service parts for pre-existing equipment.

*Response:* No change. Because the standards only require products manufactured after the effective date of the standards to comply, manufacturers can produce needed supplies before the standards take effect. In addition, it would be impossible to enforce a standard that would distinguish between power supplies that would be used for post-standards equipment and those that would be used for pre-standards equipment.

*Comment:* Electrolux stated that the standard for external power supplies mandates specific power conversion designs.

*Response:* No change. The standards for external power supplies are not design standards, but rather are performance-type minimum efficiency standards that can be met with a variety of designs and techniques.

## **Section 1606 – Filing by Manufacturers; Listing of Appliances in Database**

*Comment:* Carrier asked that the description for commercial refrigeration in Section 1606, Table V, be amended to include the phrase "with doors" after "commercial freezers" and include the phrase "without doors" after "bottled and canned beverages."

*Response:* The requested changes were made.

*Comment:* Hunter Fan stated that the testing of all ceiling fan models will take some time and that as a result it may be difficult for some manufacturers to meet the reporting deadline.

*Response:* No change. The comment did not state that the requirement was impossible to meet, but merely that it would take time. The information-submittal requirement for ceiling fans does not go into effect until January 1, 2006 (see Section 1606(a)), which allows substantial time for the necessary testing.

*Comment:* ARI and GAMA asserted that the information-submittal requirements of Section 1606 are preempted by federal law and that they have been enjoined.

*Response:* The injunction applies to the enforcement of certain regulations that apply to federally-covered products. None of the adopted amendments apply to federally-covered products.

*Comment:* ASAP asked that information-submittal and marking provisions be added for power supplies, torchieres, digital television adapters, and integrated receiver-decoders.

*Response:* No change. There was not enough information on which to base the requested regulations. However, in the December 15 adoption order, the Commission stated that it would consider these matters in the near future.

## **Section 1607 – Marking of Appliances**

*Comment:* ASAP asked that information-submittal and marking provisions be added for power supplies, torchieres, digital television adapters, and integrated receiver-decoders.

*Response:* See ASAP comment and response, immediately above.

*Comment:* Hunter Fan asked that the Commission set a specific calendar date for labeling requirements, and make that date no earlier than January 1, 2007.

*Response:* The Commission changed the reporting and marking provisions to match the effective dates of standards, where efficiency standards exist, and has set a reporting and marking date of January 1, 2006 for those appliances without efficiency standards. There is ample time between now and 2006 to comply.

*Comment:* Hunter Fan asked that the Commission remove the CFM/Watt requirement from the labeling provisions for ceiling fans.

*Response:* No change. Cubic feet per minute of air flow (CFM) per watt of energy used is the efficiency metric for ceiling fans. Without that information, consumers would not be able to compare the efficiency of different models.

*Comment:* T&S Brass asked that the marking requirements for commercial pre-rinse spray valves apply only to complying low-flow models, but not to “full-flow” models used for purposes other than the pre-rinsing of dishes or utensils.

*Response:* No change. Such models would be outside the scope of the regulations, which apply only to appliances designed “for the purpose of removing food residue prior to the placement . . . in a . . . dishwasher” (Section 1602(h)).

*Comment:* Apple Computer asked that the Commission delay the effective date of the marking provisions for power supplies.

*Response:* The Commission delayed the effective date from January 1, 2006 to July 1, 2006.

*Comment:* ARI and GAMA asserted that the marking requirements of Section 1607 are preempted by federal law and that they have been enjoined.

*Response:* The injunction applies to the enforcement of certain regulations that apply to federally-covered products. None of the adopted amendments apply to federally-covered products.

## **Section 1608 – Compliance, Enforcement, and General Administrative Matters**

There were no comments on this section.

## **X. ALTERNATIVES TO LESSEN IMPACTS ON SMALL BUSINESS**

In the December 15, 2004 Adoption Order, the Commission found, among other things, that the adopted regulations “will not result in a significant statewide adverse impact directly affecting business, including the ability of California businesses to compete with businesses in other states;” “will have no significant adverse effect on businesses in general or small businesses in particular;” “will impose costs on private persons, but those costs will be more than made up in the energy savings resulting from the regulations; and “have costs, which will be more than made up by energy savings, that a representative person or business would incur in compliance.” There were no comments on any of these matters. Therefore, the Commission did not explore alternatives to reduce potential impacts on small business.

**XI. COMMENTS FROM THE TRADE & COMMERCE AGENCY, THE OFFICE OF PLANNING AND RESEARCH, AND THE OFFICE OF SMALL BUSINESS ASSISTANCE.**

There were no comments from the Trade & Commerce Agency, the Office of Planning and Research, or the Office of Small Business Assistance.